JC09 Rec'd PCT/PTO 02 MAR 2001
09/786204

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

REQUEST FOR FILING NATIONAL PHASE OF PCT APPLICATION UNDER 35 U.S.C. 371 AND 37 CFR 1.494 OR 1.495

OIPE JC147 MAR 02 2001 PATENT & TRADEMARK OFFICE

To: Hon. Commissioner of Patents
Washington, D.C. 20231


00909

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) Atty Dkt: P 277103 /DPW/EM/U284
M# /Client Ref.

From: Pillsbury Winthrop LLP, IP Group: Date: March 2, 2001

This is a **REQUEST** for **FILING** a PCT/USA National Phase Application based on:

1. International Application	2. International Filing Date	3. Earliest Priority Date Claimed
PCT/GB99/02880	1 September 1999	4 September 1998
⇧ country code	Day MONTH Year	Day MONTH Year (use item 2 if no earlier priority)

4. Measured from the earliest priority date in item 3, this PCT/USA National Phase Application Request is being filed within:

(a) ☐ 20 months from above item 3 date (b) ☒ 30 months from above item 3 date,

(c) Therefore, the due date (unextendable) is March 4, 2001

5. Title of Invention EDGE-LIT ILLUMINATION SYSTEM

6. Inventor(s) FORSTER et al.

Applicant herewith submits the following under 35 U.S.C. 371 to effect filing:

7. ☒ Please immediately start national examination procedures (35 U.S.C. 371 (f)).

8. ☒ **A copy of the International Application** as filed (35 U.S.C. 371(c)(2)) is transmitted herewith (file if in English but, if in foreign language, file only if not transmitted to PTO by the International Bureau) including:

a. ☐ Request;
b. ☒ Abstract;
c. 7 pgs. Spec. and Claims;
d. 3 sheet(s) Drawing which are ☒ informal ☐ formal of size ☐ A4 ☐ 11"

9. ☒ **A copy of the International Application has been transmitted by the International Bureau.**

10. **A translation of the International Application** into English (35 U.S.C. 371(c)(2))
a. ☐ is transmitted herewith including: (1) ☐ Request; (2) ☐ Abstract;
(3) _____ pgs. Spec. and Claims;
(4) _____ sheet(s) Drawing which are:
☐ informal ☐ formal of size ☐ A4 ☐ 11"
b. ☒ is not required, as the application was filed in English.
c. ☐ is not herewith, but will be filed when required by the forthcoming PTO Missing Requirements Notice per Rule 494(c) if box 4(a) is X'd or Rule 495(c) if box 4(b) is X'd.
d. ☐ Translation verification attached (not required now).

RE: USA National Filing of PCT /GB99/02880 JC02 Rec'd PCT/PTO 0 2 MAR 2001

11. ☒ **PLEASE AMEND** the specification before its first line by inserting as a separate paragraph:
a. ☒ --This application is the national phase of international application PCT/GB99/02880 filed September 1, 1999 which designated the U.S.--
b. ☐ --This application also claims the benefit of U.S. Provisional Application No. 60/ _____, filed _____ .--

12. ☐ Amendments to the claims of the International Application **under PCT Article 19 (35 U.S.C. 371(c)(3)), i.e., before 18th month from first priority date above in item 3, are transmitted herewith (file only if in English) including:**

13. ☒ PCT Article 19 claim amendments (if any) have been transmitted by the International Bureau

14. ☐ Translation of the amendments to the claims **under PCT Article 19 (35 U.S.C. 371(c)(3)), i.e., of claim amendments** made before 18th month, **is attached (required by 20th month from the date in item 3 if box 4(a) above is X'd, or 30th month if box 4(b) is X'd, or else amendments will be considered canceled).**

15. **A declaration of the inventor** (35 U.S.C. 371(c)(4))
a. ☒ is submitted herewith ☐ Original ☒ Facsimile/Copy
b. ☐ is not herewith, but will be filed when required by the forthcoming PTO Missing Requirements Notice per Rule 494(c) if box 4(a) is X'd or Rule 495(c) if box 4(b) is X'd.

16. **An International Search Report (ISR):**
a. Was prepared by ☒ European Patent Office ☐ Japanese Patent Office ☐ Other
b. ☒ has been transmitted by the international Bureau to PTO.
c. ☒ copy herewith (1 pg(s).) ☒ plus Annex of family members (1 pg(s).).

17. **International Preliminary Examination Report** (IPER):
a. ☒ has been transmitted (if this letter is filed after 28 months from date in item 3) in English by the International Bureau with Annexes (if any) in original language.
b. ☐ copy herewith in English.
c.1 ☐ IPER Annex(es) in original language ("Annexes" are amendments made to claims/spec/drawings during Examination) including attached amended:
c.2 ☐ Specification/claim pages #_____ claims #
Dwg Sheets #
d. ☐ Translation of Annex(es) to IPER **(required by 30th month due date, or else annexed amendments will be considered canceled).**

18. **Information Disclosure Statement** including:
a. ☒ Attached Form PTO-1449 listing documents
b. ☒ Attached copies of documents listed on Form PTO-1449
c. ☒ A concise explanation of relevance of ISR references is given in the ISR.

19. ☒ **Assignment** document and Cover Sheet for recording are attached. Please mail the recorded assignment document back to the person whose signature, name and address appear at the end of this letter.

20. ☐ Copy of Power to IA agent.

21. ☐ **Drawings** (complete only if 8d or 10a(4) not completed): ___ sheet(s) per set: ☐ 1 set informal; ☐ Formal of size ☐ A4 ☐ 11"

22. Small Entity Status ⌀ ☒ is **Not** claimed ☐ is claimed (**pre**-filing confirmation required)
22(a) _____ (No.) Small Entity Statement(s) enclosed (since 9/8/00 Small Entity Statements(s) not essential to make claim)

23. **Priority** is hereby claimed under 35 U.S.C. 119/365 based on the priority claim and the certified copy, both filed in the International Application during the international stage based on the filing in (country) GREAT BRITAIN of:

	Application No.	Filing Date		Application No.	Filing Date
(1)	9819196.8	September 4, 1998	(2)		
(3)			(4)		
(5)			(6)		

a. ☒ See Form PCT/IB/304 sent to US/DO with copy of priority documents. If copy has not been received, please proceed promptly to obtain same from the IB.
b. ☐ Copy of Form PCT/IB/304 attached.

RE: USA National Filing of RCT/GB99/02880

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24. Attached: See Preliminary Amendment

25. **Preliminary Amendment:**

25.5 Per Item 17.c2, **cancel original** pages #_____, claims #_____, Drawing Sheets #

26. **Calculation of the U.S. National Fee (35 U.S.C. 371 (c)(1)) and other fees is as follows:**
Based on amended claim(s) per above item(s) ☐ 12, ☐ 14, ☐ 17, ☐ 25, ☐ 25.5 (hilite)

Total Effective Claims	12	minus 20 =	0	x $18/$9 =	$0	966/967
Independent Claims	1	minus 3 =		x $80/$40 =	$0	964/965
If any proper (ignore improper) Multiple Dependent claim is present,				add$270/$135	+0	968/969

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(4)): →→ **BASIC FEE REQUIRED, NOW** →→→→

A. If country code letters in item 1 are **not** "US","BR","BB","TT","MX","IL" "NZ", "IN" or "ZA"

See item 16 re:

1. Search Report was not prepared by EPO or JPO	add$1000/$500		960/961
2. Search Report was prepared by EPO or JPO	add$860/$430	+860	970/971

SKIP B, C, D AND E UNLESS country code letters in item 1 are "US","BR","BB","TT","MX","IL", "NZ", "IN" or "ZA"

→ ☐ B.	If USPTO did not issue both International Search Report (ISR) and (if box 4(b) above is X'd) the International Examination Report (IPER),	add$970/$485	+0	960/961
(only) (one) → ☐ C.	If USPTO issued ISR but not IPER (or box 4(a) above is X'd),	add$710/$355	+0	958/959
(these) (4) → ☐ D.	If USPTO issued IPER but IPER Sec. V boxes not all 3 YES,	add$690/$345	+0	956/957
→ ☐ E.	If international preliminary examination fee was paid to USPTO and Rules 492(a)(4) and 496(b) satisfied (IPER Sec. V all 3 boxes YES for all claims),	add $100/$50	+0	962/963

27.		**SUBTOTAL =**	$
28.	If Assignment box 19 above is X'd, add Assignment Recording fee of ----$40		+40 (581)
29.	Attached is a check to cover the	**TOTAL FEES**	$900

Our Deposit Account No. 03-3975
Our Order No. 81903 (C#) | 277103 (M#)

00909

CHARGE STATEMENT: The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 and 492 (missing or insufficient fee only) now or hereafter relative to this application and the resulting Official document under Rule 20, or credit any overpayment, to our Account/Order Nos. shown above for which purpose a duplicate copy of this sheet is attached.
This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal form is filed

Pillsbury Winthrop LLP
Intellectual Property Group

By Atty: Paul L. Sharer **Reg. No.** 36004

Sig: _____ **Fax:** (202) 822-0944
Tel: (202) 861-3649

Atty/Sec: PLS/JRH

NOTE: File in duplicate with 2 postcard receipts (PAT-103) & attachments.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the National Stage Application of PCT/GB99/02880 of

FORSTER *et al*

Appln. No.: Not yet assigned

Group Art Unit: Not yet assigned

Filing Date: March 2, 2001

Examiner: Not assigned

FOR: EDGE-LIT ILLUMINATION SYSTEM

* * * * * * *

March 2, 2001

PRELIMINARY AMENDMENT

Hon. Commissioner of Patents
Washington, D.C. 20231

Sir:

Prior to examination on the merits, please amend the above-identified application in the manner set forth below, which are in compliance with amended rule CFR § 1.121.

IN THE CLAIMS:

Please cancel claims 1 to 12.

Please add new claims 13-24.

--13. (New) An edge-lit illumination system comprising:

a light transmitting sheet and a light source;

the light source being positioned in proximity to and adjacent to an edge of the light transmitting sheet, wherein at least one of two opposing surfaces of the light transmitting sheet carries markings, wherein the markings are disposed randomly within each of at least one nominal area of the at least one surface.

14. (New) An edge-lit illumination system as claimed in claim 13, wherein both the opposing surfaces of the light transmitting sheet carry markings.

15. (New) An edge-lit illumination system as claimed in claim 13, wherein the area of markings coverage in each nominal area is from 0.1 to 99%.

16. (New) An edge-lit illumination system as claimed in claim 15, wherein the area of markings coverage in each nominal area is from 1 to 40%.

17. (New) An edge-lit illumination system as claimed in claim 13, wherein each nominal area is of equal size.

18. (New) An edge-lit illumination system as claimed in claim 13, wherein each nominal area is of a different area.

19. (New) An edge-lit illumination system as claimed in claim 13, wherein the area of markings coverage is the same in each nominal area.

20. (New) An edge-lit illumination system as claimed in claim 13, wherein the area of markings coverage is different in each nominal area.

21. (New) An edge-lit illumination system as claimed in claim 13, wherein the markings range from 0.1 to 10mm in length.

22. (New) An edge-lit illumination system as claimed in claim 21, wherein the marking range from 0.3 to 3mm in length.

23. (New) An edge-lit illumination system as claimed in claim 13, wherein the marking are of an irregular shape.

24. (New) An edge-lit illumination system as claimed in claim 13, wherein the markings are screen printed directly on to the surface of the light transmitting

sheet.--

REMARKS

Upon entry of the amendment, claims 13-24 will be pending in the application. Support for the amendment can be found throughout the originally filed specification. Accordingly, no new matter has been introduced by this amendment.

CONCLUSION

Applicants respectfully submit that the present application is in condition for allowance and an early Notice to that effect is courteously solicited. However, if any questions remain, the Examiner is encouraged to call the undersigned to expedite the prosecution of this application.

Respectfully submitted,

PILLSBURY WINTHROP LLP

By: _____

Paul L. Sharer
Reg. No. 36,004
Tel. No.: (202) 861-3649
Fax No.: (202) 822-0944

PLS/SMS
1100 New York Ave., N.W.
Ninth Floor - East Tower
Washington, D.C. 20005
(202) 861-3000

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APPLICATION UNDER UNITED STATES PATENT LAWS

Atty. Dkt. No. PW 277103
(M#)

Invention: EDGE-LIT ILLUMINATION SYSTEM

Inventor (s): John Henry FORSTER
Heather ALLINSON

Pillsbury Winthrop LLP
Intellectual Property Group
1100 New York Avenue, NW
Ninth Floor
Washington, DC 20005-3918
Attorneys
Telephone: (202) 861-3000

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This is a:

- ☐ Provisional Application
- ☐ Regular Utility Application
- ☐ Continuing Application
 - ☒ The contents of the parent are incorporated by reference
- ☒ PCT National Phase Application
- ☐ Design Application
- ☐ Reissue Application
- ☐ Plant Application
- ☐ Substitute Specification
 Sub. Spec Filed _____
 in App. No. ____/____
- ☐ Marked up Specification re
 Sub. Spec. filed _____
 In App. No ____/____

SPECIFICATION

Edge-Lit Illumination System

The present invention relates to an edge-lit illumination system

Edge-lit illumination systems which have as a basic feature a light source positioned alongside an edge of a light transmitting sheet are well known. The state of the art is typified by the light transmitting sheet being treated on at least one of its surfaces such that the light entering the edge of this sheet is irregularly reflected or scattered. Therefore this light is spread evenly across the illuminated surface. One of the ways of treating the surface is by application of a matrix of light reflecting and scattering material either directly to the surface or to a transparent film which is then adhered to the surface as disclosed in EP- A- 0549679. In this application the light transmitting sheet is treated on both of its surfaces. The light reflecting material is in the form of dots. These dots may be etched, painted or screen printed directly on to the surface of the light transmitting sheet or that of the transparent film adhered to the surface. The density of these dots may be increased in the direction away from the edge at which the light source is fixed by increasing the number of dots per unit area and decreasing the gaps between them or by keeping the gaps between the dots the same and increasing the size of the dots.

One disadvantage of the above system is that if this dot pattern across the light transmitting sheet is disturbed or disrupted in some way then correspondingly visually the illumination of the system appears to be disturbed. For example if a section of the dot pattern is abraded or stained then the illumination may appear to be disrupted corresponding to where the abrasion or staining has occurred on the surface of the light transmitting sheet.

A further disadvantage of the above system is a feature of the light transmitting sheet being treated on both of its surfaces. Therefore there may be complete overlap of some of the dots on the upper surface of the sheet with some on the lower surface of the sheet. This causes fringing patterns which are apparent to an observer of such an edge-lit illuminated sign as slight dark patches on the surface of the sign. By fringing we mean bands, rings or other patterns of alternate light or dark.

It is an object of the present invention to provide an edge-lit illumination system which overcomes some of these problems.

Accordingly the present invention provides an edge-lit illumination system comprising a light transmitting sheet and a light source; the light source being positioned in proximity to and adjacent to an edge of said light transmitting sheet, characterised in that at least one of the two opposing surfaces of said light transmitting sheet carries

markings such that said markings are disposed randomly within each of at least one nominal area of said at least one surface.

The light transmitting sheet is a transparent material. It may be glass or plastic but is preferably plastic and more specifically a clear acrylic sheet. The sheet may be of any shape, for example round, square, rectangular, triangular, cylindrical, irregular. Preferably it is rectangular.

Many types of light source are available but preferably fluorescent tubing is used. The diameter of the fluorescent tube may vary from typically 6mm, commonly referred to as T2, to 25mm, T8. The distance from the edge of the light transmitting panel to the crest of the tube is preferably between 1 and 2mm. In an alternative embodiment the fluorescent tube is an aperture tube. This type of tube has coated on the inside wall of the glass a reflective coating with a fluorescent coating on top of it. The aperture is a part of this tube, for example 30° of the 360° around the inside of the tube, with no coating. This opening runs the length of the tube and is arranged so it is directing light from the light source at the edge of the light transmitting sheet. A reflector is typically positioned behind each fluorescent tube and may be any material capable of reflecting light, for example mirrored aluminium. Preferably the light transmitting sheet is in a fixed relationship to the light source.

The surface of at least one side of the light transmitting sheet may comprise a single nominal area or it may be comprised of a plurality of nominal areas. The single nominal area or the plurality of nominal areas may cover part of the surface of the light transmitting sheet or the total area of the surface of the sheet. Each of these nominal areas may be of an equal size or alternatively they may be of different sizes. For example, where the light transmitting sheet is rectangular, the length of each nominal area may be approximately equal to the length of the edge of the sheet adjacent the light source and the width of each nominal area may be the same or a varied distance along the length of the light transmitting sheet, moving away from the light source.

Each of the nominal areas has markings which are disposed randomly within it. The markings may be of any shape, for example square, round, rectangular, triangular or irregular, or a combination of different shapes. Preferably they are of an irregular shape, for example irregularly shaped generally elongated structures based on squares and/or rectangles. The markings may be of equal size or a variety of sizes preferably ranging from 0.1mm to 10mm in length, more preferably 0.3 to 3mm. Preferably the width of the markings ranges from 0.5 to 1mm. The markings can be translucent or opaque and are preferably light coloured. By translucent we mean capable of transmitting rays of light

with diffusion also. By opaque we mean substantially incapable of transmitting light but with the ability to scatter light.

These markings may be etched, painted or screen printed directly on to the surface of the light transmitting sheet or to that of a transparent film which is itself then adhered to the surface. Preferably the markings are screen printed directly on to the surface of the light transmitting sheet. An example of ink screen printing is stochastic screen printing. One simple way of defining stochastic screen printing is to compare it with the screen printing of the regular dot matrix, for example as illustrated in Figure 1 in EP- A-0549679. For a chosen nominal area of the regular dot matrix there is an associated coverage of ink on the light transmitting sheet. For the stochastic screen printing each dot in this ink coverage is broken down, using a computer programme, into many smaller random markings (these smaller markings are the markings of the present application). These smaller markings are randomly distributed in a pattern in the designated nominal area. They may be of equal size or a variety of sizes. This is as disclosed in Screen Process, July 1995, page 14 by J Mulvey.

The area of coverage of the markings, for example as ink coverage if treatment of the surface is by ink screen printing, is preferably 0.1 to 99%, more preferably 1 to 40% and especially 5 to 30% for the random markings within each nominal area. The area of coverage of the markings on the surface of the light transmitting sheet may remain the same for each nominal area across the sheet . For example a sheet may have a number of nominal areas, which may be of equal or a variety of sizes, each nominal area having 10% markings coverage. In a further embodiment the density of markings within each nominal area is increased in a direction away from the edge of the light transmitting sheet at which the light source is positioned. The density of markings can be increased by increasing the size of the markings and/or the number of markings for each nominal area in the direction away from the light source.

For example for an edge-lit system with a single light source there may be a number of nominal areas, each having a length approximately equal to the length of the edge of the sheet adjacent the light source and each having a width, which may be the same or a varied distance along the length of the light transmitting sheet, moving away from the light source. The first area has a markings coverage of 3% and the coverage gradually increases with each nominal area until the nominal area which is furthest away from the edge of the light transmitting sheet at which the light source is positioned has an area of markings coverage of 20%.

The overall illumination achieved may be similar or greater than that achieved when the dot matrix is regular, for example as illustrated in Figure 1 in EP- A- 0549679.

Edge-lit illumination systems described in the present invention can be used as lighting devices or light sources, for example for backlit displays and also may be modified for use as illuminated shelving, for example in refrigerators.

Specific embodiments of the invention will now be further described in the following examples and with reference to the accompanying Figures.

Figure 1 is a sectional view through an illuminated display system according to the invention.

Figure 2 is an embodiment of the random markings pattern on one surface of the light transmitting sheet.

Figure 3 is a plan view of an abraded illuminated light transmitting sheet, treated on both surfaces according to the invention.

Figure 4 is a plan view of an abraded illuminated light transmitting sheet treated on both surfaces for comparative purposes.

Example 1

In Figure 1 the light transmitting sheet (10) is a 420 x 610 x 10mm clear cast polymethylmethacrylate (PMMA) which has been treated by screen printing white ink markings directly on to both its opposing surfaces (11,12). The markings are printed on to each surface as shown in Figure 2 and range from 0.3 to 3mm in length. The light sources are Sylvania Luxline Plus Daylight Delux fluorescent tubes (13,14) which both have a power output of 18 Watts, a colour rendering value (Ra) of 86 ,a colour temperature of 6500 Kelvin and a diameter of 25mm. These are each placed adjacent to an edge of the light transmitting sheet and surrounded by a mirrored aluminium reflector (15,16).

Example 2

The treated light transmitting sheet of Example 1 has been abraded on its upper surface (11). The abrasion is in the form of 6 markings (17-22 inclusive) in a triangular configuration. Figure 3 illustrates the abraded illuminated sheet viewed from above the upper surface.

Example 3 - Comparative

The light transmitting sheet of Example 1 has been replaced by a light transmitting sheet of the same dimensions treated by screen printing a regular matrix of white ink dots directly on to both its surfaces. The level of ink coverage ranges from about 3% increasing to 16% along the light path length of 210mm , away from each of two fluorescent tube light sources (13,14). (By light path length we mean for a single light source the furthest distance, along the length of the surface of one side of this sheet, through which light is emitted. For two light sources, adjacent to opposite edges of this sheet, then the light path length is half the distance between the two tubes.) The dots are circular and a regular distance apart, such that each nearest neighbour is 1.9mm away. The light transmitting sheet has been abraded as in Example 2. Figure 4 illustrates the abraded (23-28 inclusive) illuminated sheet viewed from above the upper surface.

It can be readily seen from Figures 3 and 4 that the visual disruption to illumination caused by the abrasion is much easier to identify in the comparative example in Figure 4. There is no evidence of the presence of any dark patches in Figure 3 which could be attributed to fringing patterns.

Claims

1. An edge-lit illumination system comprising a light transmitting sheet and a light source; the light source being positioned in proximity to and adjacent to an edge of said light transmitting sheet, characterised in that at least one of the two opposing surfaces of said light transmitting sheet carries markings such that said markings are disposed randomly within each of at least one nominal area of said at least one surface.

2. An edge-lit illumination system as claimed in claim 1 wherein both of the opposing surfaces of the light transmitting sheet carry markings.

3. An edge-lit illumination system as claimed in either of claim 1 or 2 wherein the area of markings coverage in each nominal area is between 0.1 to 99%.

4. An edge-lit illumination system as claimed in claim 3 wherein the area of markings coverage in each nominal area is between 1 to 40%.

5. An edge-lit illumination system as claimed in any of claims 1 to 4 wherein each nominal area is of an equal size.

6. An edge-lit illumination system as claimed in any of claims 1 to 4 wherein each nominal area is of a different size.

7. An edge-lit illumination system as claimed in any of claims 1 to 6 wherein the area of markings coverage is the same in each nominal area.

8. An edge-lit illumination system as claimed in any of claims 1 to 6 wherein the area of markings coverage is different in each nominal area.

9. An edge-lit illumination system as claimed in any of claims 1 to 8 wherein the markings range from 0.1 to 10mm in length.

10. An edge-lit illumination as claimed in claim 9 wherein the markings range from 0.3 to 3mm in length.

11. An edge-lit illumination system as claimed in any of claims 1 to 10 wherein the markings are of an irregular shape.

12. An edge-lit illumination system as claimed in any of claims 1 to 11 wherein the markings are screen printed directly on to the surface of the light transmitting sheet.

ABSTRACT

An edge-lit illumination system comprising a light transmitting sheet (10) and a light source (13, 14); the light source (13, 14) being positioned in proximity to and adjacent to an edge of said light transmitting sheet (10), characterized in that at least one of the two opposing surfaces (11,12) or said light transmitting sheet (10) carries markings such that said markings are disposed randomly within each of at least one nominal area of said at least one surface. If this novel surface treatment is disturbed or disrupted, for example, by staining or abrasion, the disruption to the illumination of the system is less than would be expected.

Fig.1.

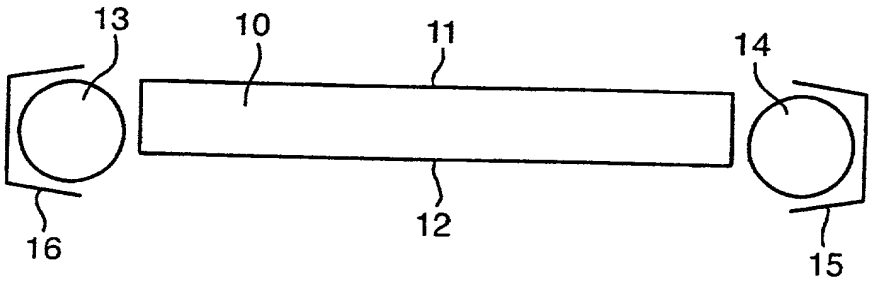
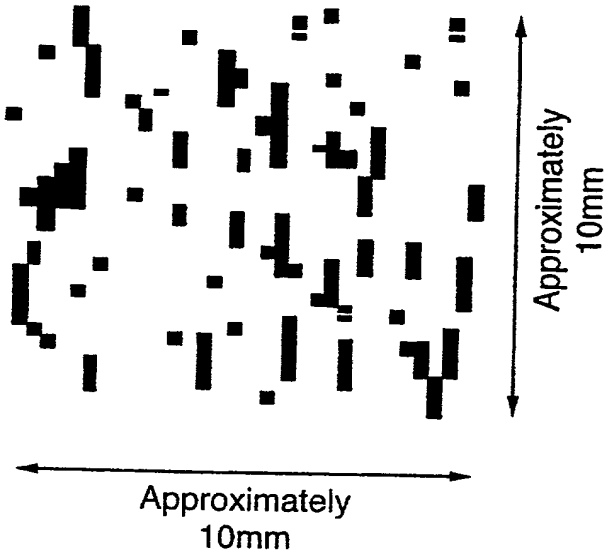


Fig.2.



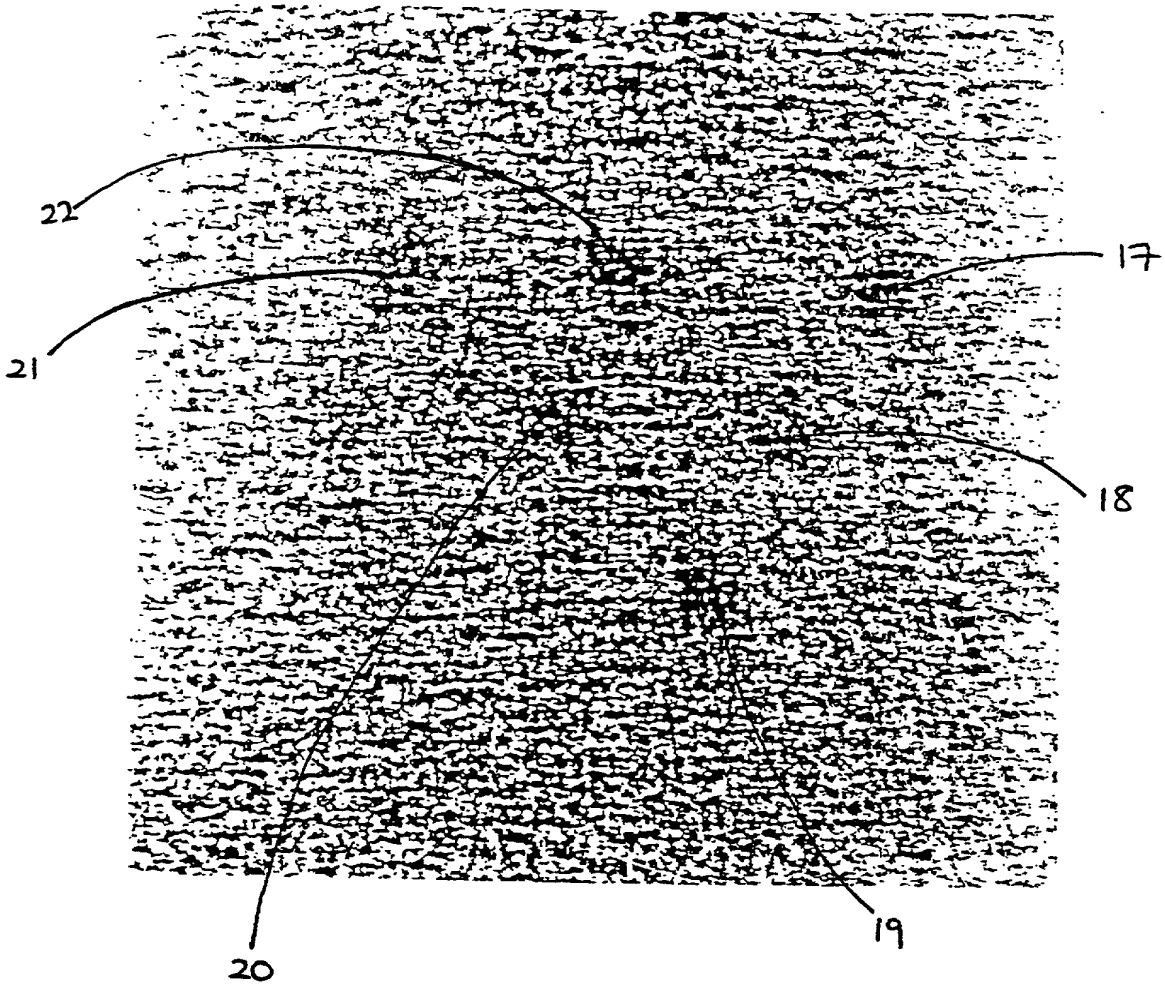


Figure 3

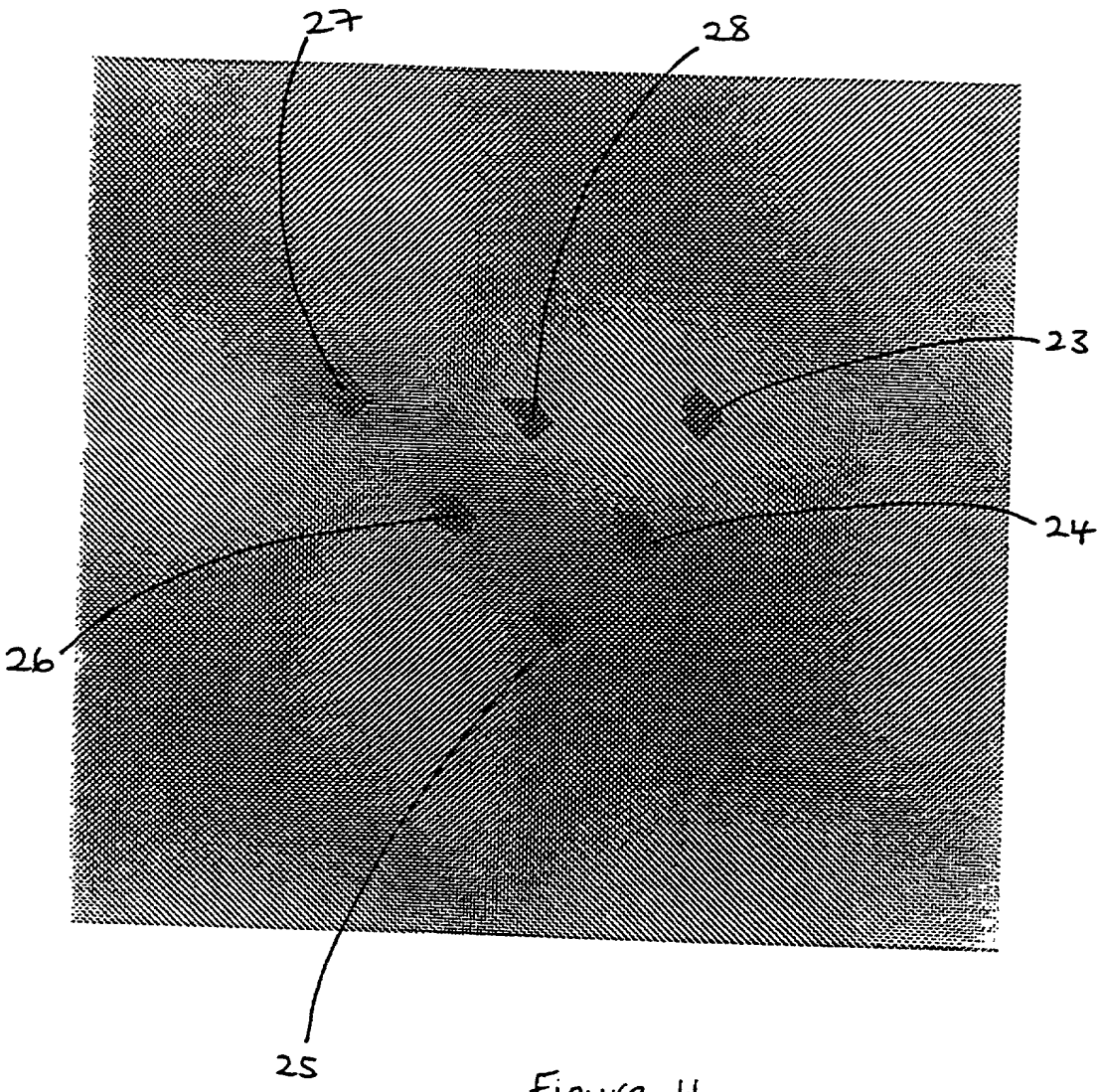


Figure 4

FOR UTILITY/DESIGN CIP/PCT NATIONAL/PLANT ORIGINAL/SUBSTITUTE/SUPPLEMENTAL DECLARATIONS

RULE 63 (37 C.F.R. 1.63) DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PW FORM

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED EDGE-LIT ILLUMINATION SYSTEM

the specification of which (CHECK applicable BOX(ES))

X A. ☐ is attached hereto.

BOX(ES) → B. ☐ was filed on _____ as U.S. Application No. _____ /

→ → C. ☒ was filed as PCT International Application No. PCT/ GB99/02880 on September 1, 1999

and (if applicable to U.S. or PCT application) was amended on _____

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56. Except as noted below, I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT International Application which designated at least one other country than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate, or PCT International Application, filed by me or my assignee disclosing the subject matter claimed in this application and having a filing date (1) before that of the application on which priority is claimed, or (2) if no priority claimed, before the filing date of this application:

PRIOR FOREIGN APPLICATION(S)

Number	Country	Day/MONTH/Year Filed	Date first Laid-open or Published	Date Patented or Granted	Priority NOT Claimed
9819196.8	GB	4 September 1998			

If more prior foreign applications, X box at bottom and continue on attached page.

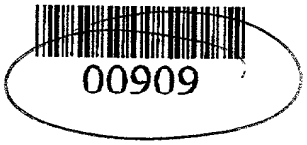
Except as noted below, I hereby claim domestic priority benefit under 35 U.S.C. 119(e) or 120 and/or 365(c) of the indicated United States applications listed below and PCT international applications listed above or below and, if this is a continuation-in-part (CIP) application, insofar as the subject matter disclosed and claimed in this application is in addition to that disclosed in such prior applications, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of each such prior application and the national or PCT international filing date of this application:

PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATION(S)

Application No. (series code/serial no.)	Day/MONTH/Year Filed	Status pending, abandoned, patented	Priority NOT Claimed

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

And I hereby appoint Pillsbury Winthrop LLP, Intellectual Property Group, telephone number (202) 861-3000 (to whom all communications are to be directed), and persons of that firm who are associated with USPTO Customer No. 909 (see below label) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent, and I hereby authorize them to delete from that Customer No. names of persons no longer with their firm, to add new persons of their Firm to that Customer No., and to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/ organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct the above Firm and/or an attorney of that Firm in writing to the contrary.



(1) INVENTOR'S SIGNATURE: John Forster Date: 22/02/01

	First	Middle Initial	Family Name
Name	John	Henry	FORSTER
Residence	Guisborough	GREAT BRITAIN GBN	GREAT BRITAIN
	City	State/Foreign Country	Country of Citizenship
Mailing Address (Include Zip Code)	119 Enfield Chase, Hunters Hill, Guisborough, Cleveland TS14 7LH, GREAT BRITAIN		

(2) INVENTOR'S SIGNATURE: H. Allinson Date: 16th February 2001

	First	Middle Initial	Family Name
Name	Heather		ALLINSON
Residence	~~Drelington~~ Darlington N.A.	GREAT BRITAIN GBN	GREAT BRITAIN
	City	State/Foreign Country	Country of Citizenship
Mailing Address (Include Zip Code)	71 Salutation Road, Darlington DL3 8JW GREAT BRITAIN		

☐ FOR ADDITIONAL INVENTORS see attached page.

☐ See additional foreign priorities on attached page (incorporated herein by reference).

Atty. Dkt. No. P _____ (M#)